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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,873	08/12/2002	Martyn Vincent Twigg	JMYT-258US	2938

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EXAMINER

TRAN, DIEM T

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 03/15/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/070,873

Applicant(s)

TWIGG, MARTYN VINCENT

Examiner

Diem Tran

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-7,9 and 11-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-7,9 and 11-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Art Unit: 3748

DETAILED ACTION

This office action is in response to the amendments filed on 11/28/03 and 3/8/04.

In this amendment, claims 1, 2, 7, 9 have been amended, claims 8, 10 have been canceled and claims 13-22 have been added. Accordingly, claims 1-7, 9, 11-22 are pending in this application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-9, 11-17, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hepburn et al. (US Patent 5,974,788).

Regarding claims 1, 2, 7-9, 12-14, 16, 21, 22, Hepburn discloses an engine having combustion management means and an exhaust gas aftertreatment system, which system comprising a catalyst liable to be poisoned by fuel sulfur to cause significant degradation for catalyst performance, which engine is fueled, at least intermittently by a fuel containing such levels of sulfur as to cause poisoning of the catalyst, wherein the combustion management means is effective to modulate the rich air fuel ratio in pulses about 0.7, the duration of peak enrichments of 1 second, and the duration of regeneration time of from 3 to 10 minutes, whereby the catalyst is regenerated (see col. 3, lines 1-2, 45-54, col. 4, lines 57-66).

Official notice is hereby made that the NOx catalytic converter in Hepburn has a platinum group metal, since such is so notoriously well-known in the art.

With regard to the preamble directed to a diesel engine, a preamble to a claim is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self contained description of the structure not depending for completeness upon the introductory clause. See *Kropa v. Robie, supra at 480*. See also *Ex parte Mott, 190 USPQ 311, 313* (PTO Bd. Of App. 1975). Base claims 1, 13, 16 clearly do not require the preamble for completeness.

Regarding claims 3, 17, Hepburn discloses all the claimed limitations as discussed in claims 1, 16 above, however, fails to disclose that the catalyst is an oxidation catalyst.

Official notice is hereby made that the NOx has become highly oxidized by the oxidizing effect of the precious metal in the catalyst in Hepburn so as the catalyst has a function of an oxidizing catalyst, since such is notoriously well-known in the art.

Regarding claims 6, 11, 15, 20, Hepburn discloses all the claimed limitations as discussed in claims 1, 7, 13, 16 above, however, fails to disclose the diesel fuel containing at least 250 ppm sulfur.

It is well known to those with ordinary skill in the art that a typical diesel fuel containing unwanted sulfur in the amount of 250 ppm would seem typical. If Applicant has evidence contrary to such, it should be submitted in response to this paper.

Claims 4, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hepburn et al. (US Patent 5,974,788) as applied to claims 1, 16 above, in view of Hirota et al. (US Patent 6,199,374).

Regarding claims 4, 18, Hepburn discloses all the claimed limitations as discussed in claims 1, 16 above, however, fails to disclose providing a quantity of fuel post combustion in the main power stroke, so as to reach in the exhaust gas lambda of 0.90 or richer. Hirota teaches that it is conventional in the art, to provide in at least one cylinder, such a quantity of fuel post combustion in the main power stroke, so as to reach in the exhaust gas lambda of less than 1 (see col. 27, lines 63-67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the teaching of Hirota in the Hepburn method since the use thereof would have provided a means to desulfurize the NOx catalyst by effectively raising an exhaust gas temperature.

Claims 5, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hepburn et al. (US Patent 5,974,788) as applied to claims 1, 16 above, in view of Araki et al. (US Patent 5,850,735).

Regarding claims 5, 19, Hepburn discloses all the claimed limitations as discussed in claims 1, 16 above; however, fails to disclose a particle or soot filter downstream of the catalyst. Araki teaches that it is conventional in the art, to utilize a soot filter (93) downstream of the catalyst (see Figure 9).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized a particle or soot filter downstream of the catalyst as taught by Araki in the Hepburn method since the use thereof would have removed harmful soot from the exhaust gas.

Response to Arguments

Applicant's arguments filed on 11/28/03 and 3/8/04 have been fully considered but they are moot in view of a new ground(s) of rejection.


Conclusion

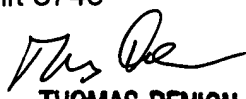
Any inquiry concerning this communication from the examiner should be directed to Examiner Diem Tran whose telephone number is (703) 308-6073. The examiner can normally be reached on Monday -Friday from 8:30 a.m.- 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (703) 308-2623. The fax number for this group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

DT
March 8, 2004


Diem Tran
Patent Examiner
Art unit 3748


THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700